Proper Care of your Double Cell Reversible Fuel Cell

1. **Use only distilled or deionized water.**
    a. **Find distilled water at grocery stores**
    b. **Find deionized water at auto supply stores**
    c. **Purified water is NOT the same thing**
    d. **Using water that is not distilled or deionized will result in poisoning the membrane in the fuel cell. It cannot be recovered after this has happened.**
    e. ***Using water that is not distilled or deionized will void the warranty on the fuel cell.***

2. **Never input more than 4.5 volts into the fuel cell.**
    a. **The optimal amount of voltage is actually 3.2 – 4.0 volts**
    b. **4.5 is a little beyond the recommended range, but it is convenient in that it can be achieved with 3 AA batteries**
    c. **Using more than 4.5 volts may work a few times, but will progressively destroy the fuel cell.**
    d. ***Inputting more than 4.5 volts into the fuel cell will void the warranty*.**

3. **For a longer life, store your fuel cell in a sealed plastic bag with a moist paper towel.**
    a. **Once the membrane in the fuel cell has dried out – it will take longer to achieve optimal performance because the membrane will have to be rehydrated.**
    b. **If your fuel cell has been sitting on the shelf for a few months, use the syringe to fill the chambers on both sides of the fuel cell and let it sit for an hour before you try to operate it.**
    c. **Your fuel cell will receive optimal performance after about 5-10 uses or until the membrane is hydrated, so in competition you will do better if you use a fuel cell that has been run 5-10 times that day.**

4. **When in electrolysis mode, the hydrogen should be able to flow freely into your storage container.**
    a. **If it is put under pressure, for example, pushing the plunger in a syringe, it may destroy the membrane.**
    b. **Fuel cells operate under very low pressure – less than 2 p.s.i. The membrane is very fragile and even a small amount of pressure can cause permanent damage.**
    c. **The gasketing on a fuel cell is manufactured with the assumption that pressure will not be applied to the fuel cell. Too much pressure can damage the gasketing.**
    d. ***Using a storage system that requires the hydrogen to provide pressure will void the warranty.***